Progress in the Control of Oropharyngeal Cancer in Rhode Island, 1987–2000

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Profile

About 770 Rhode Island residents alive today were diagnosed with cancer of the oral cavity and pharynx at some point in the past (467 men and 299 women in 1998); about 115 are newly diagnosed with oropharyngeal cancer each year (an annual average of 77 men and 38 women in the five years 1996-2000); and about 30 succumb to the disease annually (an annual average of 16 men and 13 women in the five years 1996-2000). Oropharyngeal cancers are not among the most prevalent cancers in the state (and the nation), but they are significant for cancer control efforts, because most tumors of the oral cavity and pharynx are considered preventable.

Control Strategy

Oropharyngeal cancer is strongly related to chronic tobacco use and chronic "high-risk" drinking (14 or more alcoholic drinks per week for men and 7 or more alcoholic drinks per week for women), and is therefore theoretically preventable by abstaining from tobacco and limiting alcohol consumption.[1] The effectiveness of screening for early oropharyngeal tumors is equivocal,[2] although survival is clearly related to stage of disease at diagnosis.[3] The US Preventive Services Task Force last issued a recommendation on screening for oral cancer in 1996, when it stated: "There is insufficient evidence to recommend for or against routine screening of asymptomatic persons for oral cancer by primary care clinicians. All patients should be counseled to discontinue the use of all forms of tobacco and to limit consumption of alcohol. Clinicians should remain alert to signs and symptoms of oral cancer and premalignancy in persons who use tobacco or regularly use alcohol."[2] In line with these recommendations, the Rhode Island Cancer Control Plan,[4] published in September, 1998, recommends:

Tobacco Recommendations

- Do not smoke.

Alcohol recommendations

- Limit alcohol consumption.

Screening Recommendations: Oral Cancer

- Primary care providers should remain alert to the signs of early oral cancer, particularly leukoplakia and erythroplakia, and should refer patients with these lesions to a surgical specialist for further evaluation and treatment.

2010 Targets

Healthy People 2010, the most recent set of health objectives for the United States,[5] suggests the following targets for the control of oropharyngeal cancer:

Tobacco Use

By 2010, reduce cigarette smoking by adults aged 18 years and over to 12% (baseline = 24% in 1998), and reduce tobacco use by students in grade 9 through 12 to 21% (baseline = 40% in 1998).

Alcohol Use

By 2010, reduce the proportion of adults aged 21 years and over who exceed guidelines for low-risk drinking to 50% of people who regularly use alcohol (baseline = 73% in

Table 1. Progress in the control of oropharyngeal cancer among Rhode Island residents, by sex:

- % of people ages 18 and over who are current smokers
- % of people ages 18 and over who report an average of two or more alcoholic drinks per day * [See note below.]
- Average annual age-adjusted oropharyngeal cancer incidence rates, by sex (among people of all races)
- Average annual age-adjusted oropharyngeal cancer mortality rates, by sex (among people of all races)

Men

Place	Measure	Source	Year of Diagnosis 89	90	91	92	93	94	95	96	97	98	99	00	01
RI	% Smoking	[a]		27.3	24.9	24.2	25.9		24.0	25.6	25.5	24.0	23.1	23.8	25.8
U.S.	% Smoking	[a]		24.9	25.1	24.2	24.0	23.9	24.8	25.5	25.4	25.3	24.2	24.4	25.4
RI	% Chronic Drinking *	[a]		9.5	9.4	10.2	8.6		10.0		7.8		7.3		8.6
U.S.	% Chronic Drinking *	[a]		5.8	6.2	5.2	5.5		5.0		5.3		6.4		6.3
RI	Incidence **	[b]	17.6	16.6	14.9	14.7	14.8	15.0	15.6	16.2	16.8	16.7			
U.S.	Incidence **	[c]	20.1	19.7	19.8	19.6	19.2	18.9	18.6	18.1	17.6	17.2			
RI	Mortality **	[d]	7.0	7.1	6.0	5.4	5.1	4.9	4.3	4.3	4.1	3.5			
U.S.	Mortality **	[c]	5.5	5.4	5.3	5.2	5.1	4.9	4.8	4.7	4.5	4.4			

Women

Place	Measure	Source	Year of Diagnosis 89	90	91	92	93	94	95	96	97	98	99	00	01
RI	% Smoking	[a]		24.0	25.1	20.4	21.1		25.4	19.7	23.2	21.3	21.5	23.0	22.1
U.S.	% Smoking	[a]		21.3	21.3	21.0	21.1	21.6	20.9	21.9	21.1	20.9	20.8	21.2	21.2
RI	% Chronic Drinking *	[a]		1.5	0.9	1.5	1.5		1.2		1.9		1.6		6.6
U.S.	% Chronic Drinking *	[a]		0.8	0.9	0.8	0.9		0.8		0.8		0.9		3.9
RI	Incidence **	[b]	6.6	7.0	6.8	7.5	7.3	6.7	6.9	6.5	6.5	6.3			
U.S.	Incidence **	[c]	7.5	7.4	7.4	7.4	7.4	7.3	7.3	7.2	7.1	6.9			
RI	Mortality **	[d]	1.7	1.6	1.5	1.8	1.9	1.9	1.9	1.9	1.7	1.8			
U.S.	Mortality **	[c]	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7			

* Chronic drinking: men – 14 or more drinks per week
women – 7 or more drinks per week (2001) – previously 14 or more drinks per week

** Incidence and mortality rates are based on five years' data (e.g., 1989 = 1987-1991; 1998 = 1997-2000), age adjusted to the 2000 U.S. standard population, expressed as cases per 100,000.

[a] Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention
[b] Rhode Island Cancer Registry, Rhode Island Department of Health
[c] National Cancer Institute. *SEERStat*. Bethesda, MD: National Cancer Institute, 2003.
[d] Office of Vital Records, Rhode Island Department of Health

1992). [Low risk drinking: Men—less than 14 drinks per week; women—less than 7 drinks per week.]

Mortality

By 2010, reduce the oropharyngeal cancer death rate to 2.7 deaths per 100,000 population (age-adjusted to the year 2000 standard population of the United States; baseline = 3.0 deaths per 100,000 population in 1998).

Trends

Tobacco Use

From 1990 through 2001, the proportion of Rhode Island men who had reported being a current smoker varied between 23 and 27%, showing no definite trend. The median proportion of U.S. men who had reported being a current smoker remained at around 25% for the entire period of observation.

From 1990 through 2001, the percent of Rhode Island women who had reported being a current smoker varied between 20 and 25%. Among all the states, in comparison, the median proportion of U.S. women who reported being a current smoker hovered around 21%.

Alcohol Use

From 1990 through 2001, the proportion of Rhode Island men who had reported an average of 14 or more alcoholic drinks per week varied between 7 and 10%, showing no definite trend, but substantially exceeding the U.S. state median throughout the period.

From 1990 through 1999, the proportion of Rhode Island women who had reported an average of 14 or more alcoholic drinks per week varied between 1 and 2%, showing no definite trend, but substantially exceeding the US state median throughout the period in all years but one. In 2001, the first year in which the Behavioral Risk Factor Surveillance System (a national surveillance system organized by the CDC and run by the separate states and territories) used the revised standard for chronic drinking among women (an average of 7 or more alcoholic drinks per week), the proportion of Rhode Island women who met or exceeded the standard (6.6%) was almost double the U.S. state median (3.9%).

Incidence

The average annual age-adjusted incidence of invasive oropharyngeal cancer (2000 standard) among Rhode Island men of all races declined from 17.6 per 100,000 in 1987-1991 to 14.7 per 100,000 in 1990-1994, then increased to 16.7 per 100,000 in 1996-2000. In contrast, the age-adjusted incidence of invasive oropharyngeal cancer (2000 standard) among U.S. men of all races decreased from 20.1 per 100,000 in 1987-1991 to 17.2 per 100,000 in 1996-2000.

The age-adjusted incidence of invasive oropharyngeal cancer (2000 standard) among Rhode Island women of all races varied from 7.5 per 100,000 in 1990-1994 to 6.3 per 100,000 in 1996-2000, suggesting a decline. The age-adjusted incidence of invasive oropharyngeal cancer (2000 standard) among U.S. women of all races declined from 7.5 cases per 100,000 in 1987-1991 to 6.9 cases per 100,000 in 1996-2000.

Mortality

The age-adjusted mortality of invasive oropharyngeal cancer (2000 standard) among Rhode Island men of all races declined strongly from 7.0 per 100,000 in 1987-1991 to 3.5 per 100,000 in 1996-2000, paralleled by a weaker decline among U.S. men of all races (from 5.5 in 1987-1991 to 4.4 in 1996-2000). The disparity between the mortality rates for Rhode Island men and U.S. men changed over the period of observation, with Rhode Island beginning the decade with higher-than-U.S. mortality and ending the decade with lower-than-U.S. mortality.

The age-adjusted mortality of invasive oropharyngeal cancer (2000 standard) among Rhode Island women of all races showed little variation over the 1987-2000 period, averaging about 1.8 per 100,000. The age-adjusted mortality of invasive oropharyngeal cancer (2000 standard) among U.S. women of all races declined from 2.0 in 1987-1991 to 1.7 in 1996-2000. The disparity between the mortality rates for Rhode Island women and US women decreased over the period of observation, with US women as a whole benefitting.

Assessment

Among men and women in Rhode Island, the proportion of current smokers varied little from 1990 through 2001, as did the proportion of chronic drinkers. Unfortunately, data on trends in spit tobacco use during the period were unavailable, but the proportion of people who use spit tobacco is far less than the proportion who smoke, and the link between oropharyngeal cancer and tobacco is not limited to spit tobacco. The incidence of all invasive oropharyngeal tumors among men declined, then increased over the 1987-2000 period, but mortality rates plummeted. Among Rhode Island women, there was little change in oropharyngeal cancer incidence or mortality through the 1990s.

Rhode Island has already reached the 2010 goal for a mortality decline from oropharyngeal cancer (when recent mortality rates for men and women are averaged), but given the state's average (for US) rates of tobacco use, and its above-average rates of chronic drinking, will Rhode Island be able to sustain this decline? Is there potential for further decline, or has the state reached a plateau that will not change until we experience declines in the use of tobacco and alcohol? In this vein, public health efforts should focus on discouraging youth from starting to smoke and from all under-age alcohol use, increasing cessation among those who do smoke and discouraging more-than-low-risk alcohol use among all adults. Primary care physicians can assist by addressing chronic tobacco and alcohol use among patients and by performing oral cancer screenings on high-risk patients, in line with the 1996 recommendations of the US Preventive Services Task Force.

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